

IN THE SPECIFICATION:

Please amend paragraph 20 on page 3 as shown below.

Referring to Figures 1 and 2, a wheel assembly 10 includes a wheel 14 secured to a hub 12 by multiple lug nuts 20 threaded onto corresponding threaded studs 18. The wheel 14 supports a tire 16 as is known. A sensor assembly 26 mounted to the hub 12 detects relative movement between the hub 12 and the wheel 14. The sensor assembly 26 emits a signal indicative of movement between the hub 12 and the wheel 14. The signal is received by a controller 46 that processes the received information and alerts a vehicle operator through a warning device 48. The warning device may comprise a dashboard light, audible indicator, or any other known indicator. Relative movement between the hub 12 and the wheel 14 indicates a loose wheel condition.

Please amend paragraph 22 on pages 3 and 4 as shown below.

Referring to Figures 3-5, the wheel assembly 10 includes the wheel 14 secured to the hub 12. The wheel 14 illustrated in Figure 4 is one of two wheels mounted to the hub 12 in a known configuration common to tractor-trailer and bus vehicle configurations. The sensor assembly 26 is secured to the hub 12 and extends into an opening 30. The sensor assembly 26 includes a pointer 32 contacting a surface of the wheel 14. The pointer 32 engages the wheel 14 to detect motion of the wheel 14 relative to the hub 12. A brake drum 22 mounted to the hub 12 includes a corresponding opening for the sensor assembly 26 so that the pointer 32 can extend entirely through the hub 12 and brake drum 22 to contact the wheel 14. Relative motion between the hub 12 and wheel 14 causes the pointer 32 to deflect from a center position. The sensor assembly 26 includes a biasing member 34 that biases the pointer 32 toward a surface of the hub 12. Deflection of the pointer 32 away from the center position is detected and is indicative of relative motion between the wheel 14 and the hub 12. The sensor assembly 26 is secured to the hub 12 by a retaining screw 50. Other methods and fastening means for securing the sensor assembly 26 to the hub 12 are within the contemplation of this invention.

Please amend paragraph 26 on page 5 as shown below.

During operation of a vehicle, the sensor assembly 26, is mounted to contact the wheel 14. Movement of the wheel 14 relative to the hub 12 causes the pointer 32 to deflect as indicated by arrow 54. Deflection of the pointer 32 causes subsequent deflection of the piezo-ceramic material 36. Deflection of the piezo-ceramic material 36 causes the generation of a corresponding amount of electric current. The amount of electric current is proportional to movement of the wheel 14 relative to the hub 12. The transmitter 52 emits a radio frequency signal to the controller 46 disposed within the vehicle. The controller 46 activates the ~~display~~warning device 48 to signal a warning to alert the operator of the loose wheel condition. The signal to the operator can include an identifier to provide a specific location of the detected loose wheel condition.

Please amend paragraph 26 on page 5 as shown below.

The present invention includes a method of detecting a loose wheel on a motor vehicle. Relative movement between the wheel 14 and hub 12 is schematically illustrated by arrows 56 in Figure 8. The arrows 56 indicate relative rotational movement of the wheel 14 relative to the hub 12. Referring to Figure 9, a block diagram of the method includes the initial step of mounting the sensor assembly 26 to detect relative movement between the wheel 14 and the hub 12. The method commences upon detection of relative movement between the wheel 14 and hub 12 as is indicated at 60. The sensor assembly 26,80 generates a signal proportional to movement between the wheel 14 and hub 12 as indicated at 62. Information received from the sensor assembly 26,80 is evaluated, as indicated at 64, according to predetermined criteria and limits set according to application specific parameters. A decision is made as indicated at 66 of whether or not the signal indicative of movement meets criteria established. The limits are determined according to application specific limits such as isolated one-time indications of movement. If the signal is determined to be indicative of a loose wheel condition a signal is transmitted to the controller 46 as indicated at 68. The controller in turn actuates a warning device such as a dashboard light or audible alert as is indicated at 70.

Please amend paragraph 29 as shown below.

The method and device of the present invention provides a reliable and accurate means of directly detecting a loose wheel 14 by monitoring relative movement between the wheel 14 and the hub 12. The sensor assembly 26,80 includes a transmitter 52,88 that transmits information indicative of relative movement between the hub 12 and the wheel 14 to the controller 46. The controller 46 actuates athe warning ~~display or~~ device 48 to warn the operator of the loose wheel condition.